

REMARKS

In response to the Office Action mailed May 5, 2004, Applicants amend their application and request reconsideration. No claims are added or cancelled so that claims 12 and 14-28 remain pending.

Some minor clarifying amendments are made in the two independent claims, claims 12 and 21. These amendments are non-substantive. One of the changes in each of the claims is directed to correcting a typographical error.

As well understood by the Examiner, the invention is directed to a plasma display panel. Claims 12 and 21 are independent claims. Claims 12 and 21 describe a plasma display panel including discharge cells having different, respective areas, depending upon the color of light emitted from the discharge cells. As known in the art, in these kinds of plasma display panels, visible light is produced by establishing a plasma that produces ultraviolet light that, in turn, stimulates a phosphor producing visible light of a respective color. In the plasma display panels defined by claims 12 and 21, respective cells are defined by parts of pairs of continuous main partition walls and a respective pair of auxiliary partition walls or auxiliary partition wall portions that are transverse to and intersect that corresponding pair of main partition walls. The main partition walls have a uniform width for all main partition walls. By contrast, although each auxiliary partition wall and auxiliary wall portion has, itself, a uniform width, different auxiliary partition walls and wall portions have different widths. By exploitation of these different widths of the auxiliary walls and wall portions, the areas of the discharge cells are made different, depending upon the color of the light produced by the fluorescent substance in that particular discharge cell. The areas of the discharge cells vary in accordance with the ratios of the efficiencies of light radiation by the respective fluorescent substances in order to balance the intensities of the different colors of light produced. Balancing is necessary because the respective fluorescent substances vary in their efficiencies of producing visible light in response to the same stimulation from ultraviolet light.

Among the differences between the two independent claims is that claim 21 specifies that the auxiliary partition wall portions are arranged in a staggered pattern. Thus, at least one pair of auxiliary partition wall portions on opposite sides of one of the main partition walls are not aligned with each other.

The dependent claims, in claims 16-20 and claims 24-28, describe an additional arrangement for compensating for the respective efficiencies of the fluorescent substances producing visible light of respective colors. Those claims describe the presence of first, second,

and third transparent electrodes that extend over parts of the discharge cells producing the three different colors of visible light, with the areas of those three different transparent electrodes varying in accordance with the efficiencies of light radiation by the respective fluorescent substances. Thus, this structure provides a secondary compensation of the differences in light intensities of visible light produced by the respective discharge cells.

Claims 12, 14, 15, and 21-23 were rejected as unpatentable over Whang et al. (U.S. Patent 6,373,195, hereinafter Whang) in view of Sakai et al. (U.S. Patent 6,498,430, hereinafter Sakai). The remaining pending claims, claims 16-20 and 24-28, were rejected on the same basis and further in view of Yoshida et al. (U.S. Patent 6,489,722, hereinafter Yoshida). All rejections are respectively traversed.

The fundamental premise of both rejections is that Whang in view of Sakai supplies all of the elements of claims 12 and 21 and provides motivation for combining the elements of those two references in the same way described in the present patent application and in the two independent claims. Applicants respectively disagree with both essential elements of the obviousness rejection, a rejection that seems clearly constructed with knowledge of the subject matter claimed, leading to an incorrect interpretation of Sakai.

In the rejection, emphasis was placed upon the structures shown in Figures 3 and 6 of Whang. Applicants agree that Whang describes a plasma display panel including front and rear substrates spaced apart from each other and partition walls that might be characterized as main partition walls 30 and auxiliary partition walls 31.

In Whang, all of the discharge cells have equal areas, as conceded in the Official Action, and all of the auxiliary walls have the same width so that the different width walls of the discharge cells of the claimed structure are missing from Whang.

The quotations from Sakai in the Office Action appear to be completely accurate. However, the interpretation made of the cited portions of Sakai is not supported by or justified by the cited language of Sakai and the disclosure of Sakai. Applicants agree that Sakai states that "spaces of the light emitting cells 5 are made to have different sizes according to the luminance of the fluorescent substance 4." It is notable that this passage does not state that the areas of the discharge cells are made different. Rather, the spaces, i.e., the separations, between pairs of walls in the structure shown only in cross-sectional side views and described only as to those side views in Sakai is what is made reference to in that passage. The other pertinent passages of Sakai are not different in substance. For example, column 4 describes that the "ratio of the widths of the openings is changed. For this purpose, a ratio of partition wall pitch and/or ratio of width thickness are set for the light emitting cell of each primary color." Sakai describes what is meant by this disclosure by referring to Figures 1 and 2, the figures referred to by the

Examiner. These cross-sectional side views indicate that various grooves have different widths. In Figure 1, the walls separating the grooves have different widths. Alternatively, as shown in Figure 2 of Sakai, the walls shown in cross-section have the same width but the pitch of the grooves is made variable, unlike the structure shown in Sakai's Figure 1.

It is important to recognize how limited the disclosure of Sakai is. By showing only cross-sectional views, Sakai never provides any disclosure, much less suggestion, as to what walls are made of different widths in the structure of Sakai's Figure 1. (Only Figure 1 in Sakai is potentially pertinent to the invention as defined by the pending claims. Adjusting the pitch of some walls is not part of what is claimed in the pending claims.) To make the point emphasized here clearer, are the walls with widths A, B, and C shown in Figure 1 of Sakai walls that correspond to main partition walls or walls that correspond to auxiliary walls or auxiliary wall portions as defined by the pending claims? What about walls transverse to the walls shown in Sakai? Are there such walls? If so, are those other walls of variable or uniform thickness? How does changing the groove width, i.e., size, in Sakai affect the area of any cell? No answers are found in Sakai, either in the figures or in the text. Thus, the rejection is fundamentally erroneous because the Examiner has not found any combination of prior art publications that includes all of the elements of the two pending independent claims and, therefore, of their respective dependent claims. For that most fundamental of reasons, *prima facie* obviousness has not been established.

If one were to assume that a person of skill in the art with knowledge of both Whang and Sakai would seek to modify Whang with Sakai, what modification would be suggested? Clearly, the cross-sectional views of Sakai suggest that the opening shown there are grooves, shown in an end view. Thus, if one of skill in the art found any suggestion by placing Figure 3 of Whang next to Figure 1 of Sakai, it would be a suggestion for modification of the widths of the main partition walls 30 shown in Figure 3 of Whang to reproduce the structure shown in cross-section in Figure 1 of Sakai. That result would follow because it would clearly be easier to modify the widths of continuous main walls 30 than to modify the widths of the discontinuous auxiliary walls 31. The resulting structure is not the structure described by any pending claim. Rather, as already described, in the pending claims, it is the auxiliary walls and auxiliary wall portions that have various different widths, not the main partition walls. In other words, even if there were a combination of the two patents as hypothesized, the result would not be the claimed invention and *prima facie* obviousness would not be established.

Perhaps the Examiner's rejoinder would be that it is equally likely that one of skill in the art would seek to modify Figure 3 of Whang with Figure 1 of Sakai by varying the widths of the partition walls 31 rather than varying the widths of the partition walls 30. However, that rejoinder only makes apparent that there are multiple potential combinations of the references

without any road map in them leading to a single one of the potential combinations. Therefore, motivation for producing any particular combination of the references is not present so that a claim to a particular combination could not be obvious. Stated another way, drawing the conclusion drawn here in rejecting the claims is a hindsight reconstruction to which the Examiner has been led by applying impermissible knowledge of the invention, not by any path suggested by the prior art. Therefore, the rejection for obviousness is erroneous because there is no motivation in the prior art for the proposed modification of Whang with Sakai.

For all of the foregoing reasons, the rejections of claim 12, 14, 15, and 21-23 should be withdrawn.

The rejection of claims 16-20 and 24-28 is erroneous for the same reasons already advanced with regard to the rejection of claims 12 and 21 because Yoshida does not supply the parts of the claimed invention that are commonly missing from Whang and Sakai. For example, all of the partition walls in the structures described by Yoshida have partition walls of uniform width, regardless of direction. Further, Yoshida clearly does not describe nor suggest the limitations of any of claims 16-20 and 24-28.

An explanation of the disclosure of Yoshida that is considered pertinent appears at page 7 of the Office Action. There is no assertion that Yoshida describes *three transparent* electrodes extending from the first and second electrodes. Rather, what is accurately described and appears in Figure 1 of Yoshida, are two transparent electrodes 41 that include non-transparent metal bus electrodes 42. Near the end of page 7 of the Office Action, it is asserted that it would have been obvious to modify the Sakai structure “with the third electrode of Yoshida in order to mitigate the deviation in luminance of each light emitting cell and to reduce flicker and to decrease the area of cross talk...”. This reasoning does not supply a third transparent electrode to Yoshida as in the rejected claims. Since there is no third *transparent* electrode in Yoshida that extends, with first and second transparent electrodes, over at least parts of the discharge cells, the rejection of claims 16-20 and 24-28 is erroneous and cannot be properly maintained.

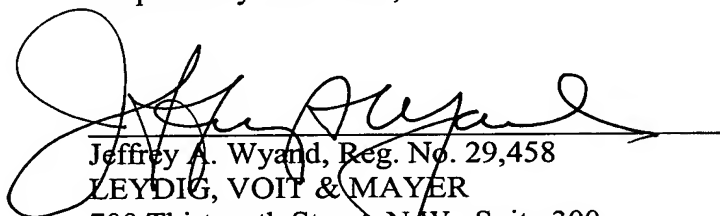
There seems to be no specific discussion in the Office Action concerning the rejection of claims 17-19 and 25-27. These claims are patentable because they depend from other dependent claims, namely claims 16 and 24, that are patentable over the cited combination of three references for the reasons just presented. These claims 17-19 and 25-27 express additional arrangements, in terms of the areas of the transparent electrodes and their arrangement with respect to particular discharge cells, that further enhance balancing of the luminance of visible light of different colors produced by the plasma display panel. For the additional reason that the limitations of these claims are not even alleged to be present in the prior art, the rejections of these claims are erroneous and these claims should be allowed.

In re Appln. of KIM et al.
Application No. 10/046,832

Finally, claims 20 and 28 include numerical limitations that the Examiner has dismissed as unpatentable optimizations. Applicants continue to transverse this rejection both on the ground that those claims 20 and 28 depend from allowable claims and because the numerical relationships have not shown to be obvious nor to be optimizations. For both of these reasons, those claims 20 and 28 should be allowed.

Reconsideration and allowance of all claims now pending are earnestly solicited.

Respectfully submitted,



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Amendment or ROA - Regular (Revised 6/5/04)